CW#19: Exeter Harkins Problems

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TP: \_\_\_\_\_\_\_

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| 1) Pick any number. Add 4 to it and then double your answer. Now subtract 6 from that result and divide your new answer by 2. Write down your answer. Repeat these steps with another number. Continue with a few more numbers, comparing your final answer with your original number. Is there a pattern to your answers? |
| 2) Find the slope of the line through  **(a)** (3*,* 1) and (3 + 4*t,*1 + 3*t*) **(b)** (*m−* 5*, n*) and (5 + *m, n*2) |
| 3) Ryan took 25 minutes to type the final draft of a 1200-word English paper. How much time should Ryan expect to spend typing the final draft of a 4000-word History paper? |
| 4) The sides of a rectangle in the coordinate plane are parallel to the axes. Two of the vertices of the rectangle are (3*,−*2) and (*−*4*,−*7). Find coordinates for the other two vertices. Find the area of the rectangle. |
| 5) *Word chains*. As the ancient alchemists hoped, it is possible to turn *lead* into *gold*.  You change one letter at a time, always spelling real words: lead—load—toad—told—gold.  Using the same technique, show how to turn *work* into *play*. |
| 6) So that it will be handy for paying tolls and parking meters, Lee puts pocket change (dimes and quarters only) into a cup attached to the dashboard. There are currently 102 coins in the cup, and their monetary value is $17.10. How many of the coins are dimes? |
| 7) After successfully solving an absolute-value problem, Ariel spilled Heath Bar Crunch R *\_* all over the problem. All that can be read now is, “The distance between *x* and (messof ice cream) is (another mess of ice cream).” Given that Ariel’s answers are *x* = *−*3 and  *x* = 7, reconstruct the missing parts of the problem. |
| 8) Find the number that is two thirds of the way **(a)** from *−*7 to 17; **(b)** from *m* to *n*. |
| 9) Brooks and Avery are running laps around the outdoor track, in the same direction.  Brooks completes a lap every 78 seconds while Avery needs 91 seconds for every tour of  the track. Brooks (the faster runner) has just passed Avery. How much time will it take  for Brooks to overtake Avery again? |